Symmetra PX 250/500

Scalable from 25 kW to 500 kW, Parallel-capable up to 2,000 kW

Modular, Scalable, Ultra-high Efficiency Power Protection for Data Centers

High-performance, right-sized, modular, hot-scalable, three-phase power protection with ultra-high availability and efficiency for small, medium, and large data centers and mission critical environments

- Parallel capable
- Patented ultra-high efficiency (96% in full protection mode)
- ECO Mode option supplies up to 99% efficiency in good power conditions
- Double conversion technology
- Redundant power and runtime protection in a single unit
- High-density design
- Unity power factor corrected
- Rack based for agility and aesthetics

APC™

by Schneider Electric

Features and Benefits

The right-sized UPS for demanding business critical applications

APC™ by Schneider Electric Symmetra™ PX 250/500 is a world-class, ultra-high efficiency power protection system designed to cost effectively provide high levels of availability while simplifying the right-sizing of your data center. Symmetra PX 250/500 is a true modular system consisting of hot-swappable dedicated and redundant power, intelligence, and battery modules that facilitate easy and efficient service. This architecture can scale power and runtime as demand grows or as higher levels of availability are required. The Symmetra PX 250/500 systems can scale in increments of 25 kW up to 500 kW, and four systems can be paralleled to deliver up to 2,000 kW of power protection (1.5 MW with N+1 system-level redundancy).

With industry-leading power density, the Symmetra PX has the ability to fit seamlessly onto the data center floor or into the back room. Highly manageable, the Symmetra PX 250/500 features self-diagnostic capabilities and standardized modules which mitigate the risk of human error. Other features include automated predictive diagnostics, increased overload capacity, extended battery life, and on-the-fly firmware upgrades resulting in increased overall data center reliability.

Symmetra PX 250/500

Availability

- Redundant intelligence module
- Hot-swappable power, battery, and intelligence modules
- Hot-swappable static bypass switch
- Self-diagnosing, field-replaceable modules
- Toolless module replacement
- Parallelable for redundancy (1.5 MW N+1)
- N+0 or N+1 module-level redundancy
- N+0 or N+1 system-level redundancy
- External source synchronization

Scalability

- 25 kW to 500 kW power capacity
- Hot-scalable 25 kW power modules
- Parallelable for capacity (2 MW)
- Extended battery runtime available

Total Cost of Ownership

- Unity power factor corrected
- Ultra-high efficiency in full protection mode (96% at 50% load)
- Up to 99% efficiency in good power conditions with ECO Mode
- Powerful, high-performance batteries

Manageability

- Energy monitoring displays kWh output of each UPS
- Dual mains input, top or bottom feed
- Embedded network management
- Remote access over HTTP, HTTPS, Telnet, SSH, and SNMP
- Local access at touchscreen display interface
- Remote display application
- Configurable alarm notifications
- StruxureWare™ for Data Centers: Data Center Expert software compatible

Typical Applications

- Medium data centers
- Large data centers

Symmetra PX 250/500 Features and Benefits

SY250K250DR-PD

1 Ultra-high Efficiency Power Module – 96% in full protection mode
Provides the flexibility to scale power capacity in 25 kW increments and adds N+1 capability as well as a fully rated double conversion inverter for providing more real power

2 Powerful Battery Module
Connected in parallel for increased availability, hot-swappable battery modules feature advanced battery monitoring and temperature-compensated charging, extending battery life

3 Parallel Capability
Further enhance your data center's resilience by adding system-level redundancy to your modular Symmetra PX 250/500

4 Dual Mains Input/Output
Allows for connection to two separate power inputs for increased availability — top or bottom

5 10-inch LCD Touch Screen Display
Offers a clear graphical/text based overview of alarms, status data, and instructional help that minimize the risk of operator errors

6 System Wide Firmware Updates
A USB port on back of the display enables on-the-fly upgrades, making firmware updates easy and increasing system availability

7 Redundant Intelligence Module
Back-up for the Main Intelligence Module provides increased availability

8 Built-in Static Bypass Switch
Hot swappable, the static bypass switch enables the UPS to transfer the load to utility power, without interruption, in case of heavy overload or faulty conditions

9 Maintenance Bypass with Distribution
Space-saving design that provides power distribution to your load and, if required, isolation from the UPS while maintaining power to your critical loads

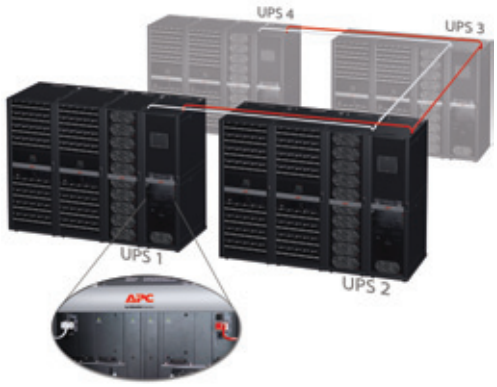
10 High-density Footprint
Space-saving footprint allows more flexibility on where you place the UPS

11 Premium Line-up/Remote External Battery Enclosure
Eight enclosures can be connected to the UPS either in-row or remotely, allowing the UPS to be configured to your data center requirements while offering extended runtimes and availability

The High-density, Ultra-efficient, Scalable, Modular UPS

Scalable, Modular, and Parallelable

- 250 kW/500 kW configuration populated at lower capacity enables one-time installation service
  - Each UPS scalable from 25 kW to 500 kW
  - Parallel four systems up to 2 MW
- Additional battery frames scale runtime
- Inherently N+X redundant
- Integrated parallel functionality
- Optional combined maintenance bypass and sub-feed distribution panel
- All components conform to InfraStruxure™ architecture form-factor (78.7 x 42.1 in H x D) (1,991 x 1,070 mm H x D)



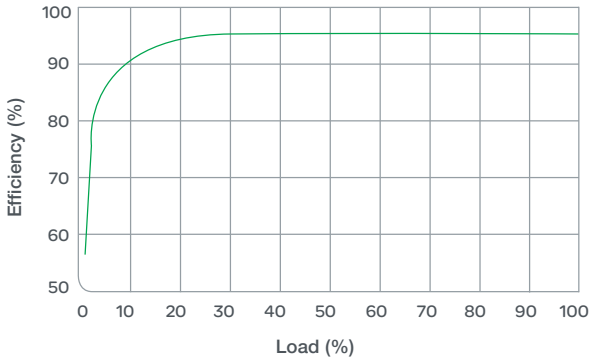
Configuration Flexibility

- Modular architecture offers the flexibility that today's data center requires
  - White Space, Back Room, Wall Space
  - Line-up Batteries, Remote Batteries
  - Top Feed, Bottom Feed
  - Single Feed, Dual Feed
- 250 kW to 500 kW expansion
  - One additional power frame
  - 500 kW Static Switch
  - Additional power modules
- Supports up to four UPS units in parallel with custom switchgear
- Supports up to eight battery frames for extended runtime applications

Ultra Efficient

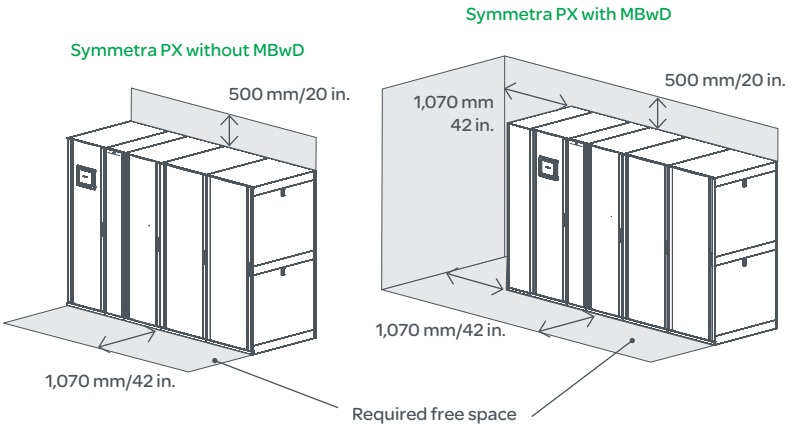
96% efficient to 50% loading and 95% efficient to 25% loading, the PX250/500 kW conserves energy and cuts back your power and cooling costs, significantly reducing your overall Total Cost of Ownership

ECO Mode setting bypasses unused electrical components in good power conditions to achieve even higher operating efficiency (up to 99%) without sacrificing protection.



High Density

- The highest power density in its class
- Frees up valuable data center space
  - 250 kW in 3.3 sq/m (35.5 sq/ft.) (includes battery footprint)
  - 500 kW in 5.7 sq/m (61.4 sq/ft.) (includes battery footprint)
  - 2 MW in 22.8 sq/m (245.4 sq/ft.) (includes battery footprint)



Symmetra PX Accessories

Extended Runtime (XR) Frames

To increase the number of minutes your load can remain on battery, add optional Battery Extended Runtime frames. A maximum of eight battery frames can be connected to the Symmetra PX 250/500 to extend runtime

Battery Breaker Enclosure

Install the battery breaker enclosure, then use third-party battery cabinets to supply runtime to the load

Third-party Battery Cabinet*

Front-access battery systems provide high-energy storage density in a smaller footprint while eliminating the need to reach over energized cables or battery terminals to install, maintain, or replace batteries

*Available in North America only

Modular Power Distribution

Modular Power Distribution mitigates the need to predict the future requirements and configurations of your data center. Factory-assembled power distribution modules plug into a backplane that shields users from dangerous amperage. The power distribution system simplifies power management by including output metering, branch current/circuit monitoring and auto-detection by the StruxureWare for Data Centers suite of management options. Multiple power ratings and power cord lengths for low to high power guarantee compatibility and convenient installation

Battery Sidecar

Install the batteries remotely, then connect the batteries by cables to the UPS

Bottom Feed Frame

For some configurations greater than 250 kW, use the Bottom Feed Frame to support dual bottom-feed utility input

Symmetra PX 250/500 kits

Battery Breaker Enclosure Fuse Kits (500 A/1,000 A)

Air filters

Optional Terminal Blocks

Parallel Cables

Third-party Switchgear Kit

Seismic kits

StruxureWare for Data Centers Software Suite

APC by Schneider Electric UPS units and secure power systems are a core component of any architecture designed for highly critical applications, such as data centers, industry environments, infrastructure, and buildings.

Intelligent energy management of these systems is enabled by Schneider Electric EcoStruxure™ integrated hardware and software system architecture. StruxureWare software applications and suites are a key element of the EcoStruxure architecture. The software helps maximize system reliability and optimize operational efficiency.

StruxureWare for Data Centers software suite collects and manages real-time information about assets, resource use, and operation status throughout the data center life cycle. This data center infrastructure management (DCIM) software fully integrates Symmetra PX 250/500 UPS. With full system visibility, managers can monitor and apply this information in order to optimize data center performance to meet IT, business, and service-oriented goals.

A Comprehensive Portfolio of Services

Schneider Electric Critical Power & Cooling Services (CPCS) provides the highest quality services and solutions by trained and trusted professionals. Our world-class services offer a smart way to build, operate, and maintain your critical applications, ensuring the right people, in the right place, at the right time.

Assembly and Start-Up Service

Assembly and Start-Up Service by a certified Field Service Engineer (FSE) ensures full factory warranty coverage. A Schneider Electric-certified installation ensures your equipment is properly and safely configured for optimal performance. This service features a standard eight-hour, five-day response time, with upgrades available for off-business hours.

On-site Warranty Extension Service

In the event of a system issue, an FSE will arrive by the next business day (or faster with upgrades) to isolate, diagnose, and correct the problem in as little time as possible, minimizing downtime.

Advantage Plans

Flexible service packages offer hassle-free system maintenance to improve uptime at a predictable cost. The Advantage Plus, Prime, Ultra, and Max are full-service packages that include technical support, preventive maintenance, quick on-site response, and remote monitoring. Response time upgrades are available.

Remote Monitoring Service (RMS)

RMS is an economical and easy-to-use Web-based service that lets you quickly respond to environmental or system changes. Trained technicians provide secure 24-hour monitoring of your physical infrastructure to diagnose and resolve problems before they become critical.

Preventive Maintenance

Preventive Maintenance on-site examinations of your critical systems are designed to prevent problems and keep your system running at maximum efficiency.

Technical Specifications

UPS Rating kVA/kW (PF=1)	250 kW	500 kW
Mains Input (Normal Operation)		
Grid system	Single feed: 3 phases + neutral + ground, 3 phases + ground Dual feed: 3 phases + ground	
Grid parallel system	Single feed: 3 phases + neutral + ground Dual feed: 3 phases + ground	
Voltage range	+/-15% at full load; -50% to +15% at reduced loads; 340 – 460 V at 400 V (408 – 552 V at 480 V)	
Frequency range	40 – 70 Hz with 10 Hz/sec slew rate	
Power factor (PF)	>0.995 at load = 100% >0.99 at load > 50% >0.97 at load > 25%	
I thd (full load)	< 5%	
Nominal input current	378 A @ 400 V (315 A @ 480 V)	756 A @ 400 V (630 A @ 480 V)
Maximum input current (nominal vin, 10 % charging batts)	416 A @ 400 V (346 A @ 480 V)	831 A @ 400 V (693 A @ 480 V)
Input current limit	447 A @ 400 V (372 A @ 480 V)	894 A @ 400 V (745 A @ 480 V)
Input short-circuit level	65 kA/3 cycles (50 kA with standard MBwD)	
Protection	Backfeed contactor	
Output		
Power rating	250 kW	500 kW
Grid system	3 phases + neutral + ground, 3 phases + ground	
Voltage nominal	380 V/400 V/415 V/480 V L-L	
Nominal output current	361 A @ 400 V (301 A @ 480 V)	722 A @ 400 V (601 A @ 480 V)
Maximum battery operation time	Unlimited	
Frequency regulation	50/60 Hz bypass synchronized, 50/60 Hz +/-0.1% free running	
Synchronized slew rate	Programmable to 0.25, 0.5, 1, 2, 4, 6 Hz/sec	
Overload (normal and battery operation)	150% for 60 seconds, 125% for 10 min, 100% continuous	
V thd	< 2% from 0 to 100% linear load, < 3% full non-linear load according to IEC/EN62040-3	
Load PF	from 0.5 leading to 0.5 lagging without any derating	
Bypass Input (Bypass operation)		
Grid system	Single feed: 3 phases + neutral + ground, 3 phases + ground. Dual feed: 3 phases + ground	
Voltage (nominal)	380 V/400 V/415 V/480 V L-L	
Voltage (range)	+/-10% (from selected voltage)	
Frequency (nominal)	50/60 Hz	
Frequency (range)	+/-0.5%, +/-1%, +/-2%, +/-4%, +/-6% and +/-8% (user selectable)	
Nominal input current	361 A @ 400 V (301 A @ 480 V)	722 A @ 400 V (601 A @ 480 V)
Maximum overload input current	397 A @ 400 V (376 A @ 480 V)	794 A @ 400 V (752 A @ 480 V)

Preliminary - Subject to change without notice

Technical Specifications, continued

UPS Rating kVA/kW (PF=1)	250 kW	500 kW
Efficiency		
Normal operation	> 96% at 50% – 100% load, >95% at 25% – 49% load	
Battery operation	> 96% at 50% – 100% load, >95% at 25% – 49% load	
Mechanical: Stand-alone UPS, no batteries		
Size (H x W x D)	1,991 x 1,600 x 1,070 mm (78.7 x 63 x 42.1 in.)	1,991 x 2,200 x 1,070 mm (78.7 x 86.6 x 42.1 in.)
Weight	1,057 kg (2,330 lb.)	1,722 kg (3,797 lb.)
Mechanical: UPS with MBwD and 6 min. battery runtime		
Size (H x W x D)	1,991 x 3,100 x 1,070 mm (78.7 x 121.9 x 42.1 in.)	1,991 x 5,200 x 1,070 mm (78.7 x 204.7 x 42.1 in.)
Weight	4,509 kg (9,940 lb.)	8,336 kg. (18,377 lb.)
Environmental		
Storage temperature, UPS only	-30 to 70°C (-22° to 158°F)	
Storage temperature, UPS and batteries	-15 to 40°C (5 to 104°F) Battery self discharge: approximately 6 – 8 months @25°C; 1 – 2 months @45°C	
Operating temperature*	0 to 40°C (32 to 104°F)	
Regulatory compliance	UL Listed, ULc Listed, CE, EN/IEC 62040-2 (class A), FCC part 15, EN/IEC 62040-3, EN/IEC 62040-1-1, UL 1778, UL 60950-1, CSA C22.2 No. 107.3-05, OSHPD	

* For optimum battery life, the operating temperature range is 18 to 27°C (64 to 80°F)
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